

## STRUCTURAL COLLAPSE SEARCH TEAM

<b>DESCRIPTION</b>	A Structural Collapse Search Team conducts searches in collapsed structures and debris fields, both natural and human-caused.
<b>RESOURCE CATEGORY</b>	Search and Rescue
<b>RESOURCE KIND</b>	Team
<b>OVERALL FUNCTION</b>	<p>The Structural Collapse Search Team performs the following functions:</p> <ol style="list-style-type: none"> <li>1. Searches in a structural collapse environment for unaccounted individuals</li> <li>2. Conducts thermal, optical, acoustical, and audio search</li> <li>3. Team provides medical care to include basic life support (BLS)</li> <li>4. Operates in environments with and without infrastructure, including those with compromised access to roadways, utilities and transportation, or medical facilities; and with limited availability of food and water</li> <li>5. Operates within the Incident Command System (ICS)</li> </ol>
<b>COMPOSITION AND ORDERING SPECIFICATIONS</b>	<ol style="list-style-type: none"> <li>1. The mission location and operational environments such as size of structure, type of structure, etc. must be specified by the requestor</li> <li>2. This team is intended and equipped to conduct primary search of humans and animals from a structural collapse environment</li> <li>3. The need for additional specialized personnel (e.g., medical, animal, logistics, advisors, or helicopter support) must be specified</li> <li>4. Per the American Society for Testing and Materials International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel, operations in search and rescue (SAR) environments may be recognized as immediately dangerous to life and health (IDLH) and the requesting authority must consider the need for additional recognized capability or endorsements</li> <li>5. The need for additional vehicles, trailers, equipment, or, supplies (fuel) must be specified</li> <li>6. Equipment (hardware, software, ropes, victim evacuation devices, personal protective equipment (PPE), etc.) needed to accomplish operations must be specified</li> <li>7. Specify heavy, medium or light operations when ordering: <ol style="list-style-type: none"> <li>a. Heavy is capable of search operations in heavy floor construction, pre-cast concrete construction, reinforced concrete, steel frame construction, and mass transportation rescue</li> <li>b. Medium is capable of search operations in heavy wall construction, high angle rope rescue (not including highline systems), confined space rescue (permit required), non-reinforced concrete, trench, and excavation rescue</li> <li>c. Light is capable of search operations in light frame, ordinary construction</li> </ol> </li> <li>8. The requestor must specify the need for heavy equipment such as cranes, aerial lifts (booms), and industrial style forklifts</li> <li>9. Teams work up to 12 hours per shift, are self-sustaining for 72 hours, and deployable for up to 14 days</li> <li>10. The Agency Having Jurisdiction (AHJ) and resource must address, prior to deployment, certain needs, including: <ol style="list-style-type: none"> <li>a. Communications beyond the resource's intra-team communications (such as programmable inter-operable communications with command, logistics, military, etc.)</li> <li>b. Contaminated environments, and related PPE, respiratory protection, clothing, and equipment</li> <li>c. Logistics support needs for this resource (security or force protection, lodging, transportation, meals, etc.)</li> </ol> </li> </ol>

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

## Resource Typing Definition for Mass Search and Rescue Operations Search and Rescue

COMPONENT	TYPE 1	TYPE 2	TYPE 3	NOTES
<b>EQUIPMENT PER TEAM GENERAL EQUIPMENT</b>	Same as Type 3	Same as Type 3	<ol style="list-style-type: none"> <li>1. Communications</li> <li>2. Access, search, rescue, and recovery</li> <li>3. Victim assessment, treatment, and evacuation</li> <li>4. Vehicles' support</li> <li>5. Ground support for air operations</li> <li>6. Base and spike camp</li> <li>7. Discipline-specific PPE, tools, respirators, and breathing apparatus</li> </ol>	Not Specified
<b>EQUIPMENT PER TEAM MEMBER COMMUNICATIONS</b>	Same as Type 3	Same as Type 3	<ol style="list-style-type: none"> <li>1. Intra-team and inter-team communications system</li> <li>2. Programmable radios</li> <li>3. Phone (i.e., cell or satellite, battery, and charger)</li> <li>4. Battery chargers</li> <li>5. Handheld global positioning system (GPS) unit(s)</li> <li>6. Handi-mikes or earphones/headsets</li> </ol>	Intra-team and inter-team communications are consistent with National Interoperability Field Operations Guide (NIFOG).
<b>EQUIPMENT PER TEAM MEMBER PPE</b>	Same as Type 3	Same as Type 3	<p>Minimum PPE consistent with this resource's capabilities and needs, including:</p> <ol style="list-style-type: none"> <li>1. Helmet(s), headlamp(s), and batteries</li> <li>2. Eye and hearing protection</li> <li>3. Breathing protection</li> <li>4. Uniform/protective clothing</li> <li>5. Gloves</li> <li>6. Footwear</li> <li>7. Deployment/travel pack</li> <li>8. Initial attack pack</li> <li>9. Personal medical kit</li> <li>10. Survival kit</li> <li>11. Other necessary field packs or gear</li> <li>12. Foul weather clothing</li> </ol>	Not Specified

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COMPONENT	TYPE 1	TYPE 2	TYPE 3	NOTES
<b>EQUIPMENT PER TEAM PER OPERATION</b>	Same as Type 2 PLUS: 1. Canine per specialist 2. Thermal imaging camera	Same as Type 3 PLUS: 1. Listening devices 2. Search camera 3. Core drills 4. Low-angle rope equipment	1. Hand tools 2. Ropes	Hand tools include shovels, gasoline or electric saws, and bolt cutters. Breaching and breaking equipment includes sledgehammers and crowbars. Additional heavy equipment may need to be ordered such as cranes, aerial lifts (booms), and industrial style forklifts.
<b>PER RESOURCE PER RESOURCE CONSTRUCTION TYPE</b>	Heavy	Medium	Light	Not Specified
<b>PERSONNEL PER TEAM COMMON-AREA FUNCTIONS</b>	Same as Type 3	Same as Type 3	1. Provides for the following basic Incident Command System (ICS) functions: a. Safety of their personnel and operations b. Medical care of their personnel and subjects c. Logistics: small repairs of small equipment and incident logistics support d. Plans team level tactics e. Plans camp shelter if needed f. Simple decontamination of personnel g. Basic ground support for helicopter operations and possibly greater 2. May use ground and water vehicles and aircraft for support	Not Specified
<b>PERSONNEL PER TEAM MANAGEMENT AND OVERSIGHT</b>	Same as Type 2	1 - NIMS Type 1 Structural Collapse Search Team Leader	1 - National Incident Management System (NIMS) Type 1 Structural Collapse Search Team Leader	Not Specified
<b>PERSONNEL PER TEAM OPERATIONS AND SUPPORT</b>	Same as Type 2 PLUS: 2 - NIMS Type 1 Canine Search Specialists, Disaster/Structural Collapse -Live	2 - NIMS Type 1 Structural Collapse Search Technicians	1 - NIMS Type 2 Structural Collapse Search Technician	For the Type 1, the canine must be ordered additionally with the Canine Search Specialists.

## Resource Typing Definition for Mass Search and Rescue Operations Search and Rescue

COMPONENT	TYPE 1	TYPE 2	TYPE 3	NOTES
<b>PERSONNEL PER TEAM SPECIFIC FUNCTION/CAPABILITIES</b>	Same as Type 2 PLUS: Conducts Rescue in Light, Medium, and Heavy construction, consistent with the UN INSARAG's US&R categories of structures: 1. Heavy floor construction 2. Includes a Canine Search, Disaster/Structural Collapse component	Same as Type 3 PLUS: Conducts Rescue in Light and Medium construction, consistent with the UN INSARAG's US&R categories of structures: 1. Heavy wall construction 2. Concrete construction 3. Steel frame construction	Conducts Search in Light construction, consistent with the United Nations (UN) International Search and Rescue Advisory Group's (INSARAG) Guidelines and Methodology for Urban Search and Rescue (US&R) categories of structures: 1. Light frame construction 2. Performs thermal, optical, acoustical, and audio search 3. Provides first aid to include cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) 4. Confined space (permit-required, non-cave, non-mine)	Not Specified
<b>PERSONNEL PER TEAM TOTAL MINIMUM PERSONNEL QUANTITY</b>	5	3	2	Not Specified
<b>VEHICLE PER TEAM TRANSPORT</b>	Same as Type 3	Same as Type 3	2 - Vehicles	Vehicles are for use in transporting team members and equipment and can be capable of 2 or 4-wheel drive.

## NOTES

Nationally typed resources represent the minimum criteria for the associated component and capability. The Agency Having Jurisdiction (AHJ) may require additional capabilities and endorsements.

## REFERENCES

1. FEMA, NIMS 508-8 Structural Collapse Rescue Team
2. FEMA, NIMS 509-8: Structural Collapse Rescue Team Leader
3. FEMA, NIMS 509-8: Structural Collapse Rescue Technician
4. FEMA, NIMS 509-8: Structural Collapse Search Team Leader
5. FEMA, NIMS 509-8: Structural Collapse Search Technician
6. FEMA, NIMS 509-8 Canine Search Specialist, Disaster/Structural Collapse - Live
7. United Nations (UN) International Search and Rescue Advisory Group (INSARAG), Guidelines and Methodology, April 2012
8. American National Standard Institute (ANSI) A10.14 American National Standard for Construction and Demolition Operations - Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use, latest edition adopted
9. ANSI Z359.1 American National Standard Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components, latest edition adopted
10. American Society for Testing and Materials International (ASTM) F-2890-12 Standard Guide for Hazard Awareness for Search and Rescue Personnel, latest edition adopted
11. International Code Council (ICC), International Building Code
12. National Fire Protection Association (NFPA) 1983: Standard on Life Safety Rope and Equipment for Emergency Services, latest edition adopted
13. Occupational Safety and Health Administration (OSHA), 29 CFR 1910.120 (Code of Federal Regulations), Hazardous Waste Operations and Emergency Response
14. OSHA, 29 CFR 1910.146, Permit-Required Confined Spaces
15. OSHA, 29 CFR 1910.134, Respiratory Protection
16. U.S. Department of Homeland Security, National Interoperability Field Operations Guide (NIFOG), v 1.4, January 2011